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SUBJECT An Analysis of Soviet Statistical Data as
They Reflect Economic Growth

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1. It is to be noted that all statistics, unless otherwise noted, used in compiling the tables set forth in this report, were derived from original Soviet sources. The data pertaining to the 1940 gross output of Soviet industry and agriculture were revealed by Nikolay Voznesensky, former Chairman of the State Planning Commission (USSR) in his report to the 18th Party Conference in February of 1941. The rest of the data have been computed by using official (USSR) reports on fulfillment of planned annual production quotas, expressed in terms of percentages and related to the preceding year or to 1940.
2. It has often been pointed out by students of Soviet economy that Soviet statisticians make wide use of percentage figures for expressing data. Soviet authorities may believe that this method of statistical reporting has certain deceptive powers and at the same time reveals a minimum of factual information. With this in mind, one must view with suspicion the validity of the basic 1940 figures. In the USSR very few, if any, official actions of importance have been taken without being carefully planned and designed so as to serve the same definite goals and purposes of long-range Communist strategy. One may speculate, therefore, that the publication of

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the absolute figures on Soviet economic strength in 1941 was a deliberate move, timed in order to "impress" potential enemies. In fact, it followed another unusual and dramatic move. This was the publication of detailed figures by Marshalls K Voroshilov and S Timoshenko which were supposed to prove that the Red Army had superior fire power and better equipment and techniques than foreign armies. Several figures were quoted and comparisons made between similar units of the Red Army and the German and French armies. For instance, in the 15 Mar 39 issue of "Pravda" there appeared the following: That K Voroshilov, Commissar of Defense, stated that a single volley from an entire artillery of French and German infantry corps, weighs 6.373 and 6.078 kilograms respectively, while a volley of artillery in a Red Army corps weighs 7.136 kilograms. He also said that a Soviet infantry corps can discharge 66,605 kilograms of shell-fire a minute as compared with the French rate of 51,462 and the German rate of 48,763. In the course of the Soviet-German war all of these high estimates proved to have been grossly exaggerated (History of World War II - F F Miller, 1945). It is, therefore, only natural for one to look upon the 1940 statistics as part of a planned deception.

3. Table I [see tables at end of report] has been compiled by using absolute figures of 1940 and the official reports of annual fulfillment of the production plan expressed in percentages related to these absolute figures, or to the preceding year. Assuming that the "basic figures" of 1940 represent actual economic accomplishments, the following two approaches to an analysis are suggested:
 - a. to study and analyze the effects of the World War II on the Soviet economy, and
 - b. to evaluate the achievement and interpret certain peculiar trends of the post-war development of the Soviet economy up to the present (1954).
4. According to the official Soviet statistics, the Soviet Union, as the result of the German occupation during World War II, lost an area which accounted for 45% of the population, 33% of the gross output of industry, 47% of the growing area, 45% of total cattle and 55% of total railroad lines (The Economy of the USSR During the Patriotic War - Voznesensky, 1947). These figures correspond with those set forth in Table I and Table III [see tables at end of report] in reflecting the average decline in production between 1940 and 1945 but there are certain aspects which should be studied. For example, according to these figures the gross output of the oil industry decreased from 31 million metric tons in 1940 to 19.4 million metric tons in 1945 (Table I) or a decrease of 37.5% (Table III). This is difficult to explain in view of the fact that the area which was directly affected by World War II accounted for less than 10% of the total oil output (D B Shimkin, "Minerals: A Key to Soviet Power", Harvard University Press, 1953, pp 196-203). Furthermore, because of an inevitable increase in the demand for oil products for war purposes and the loss of major sources of hard fuels in the Donets Basin, one would have expected oil production to increase during the war years. The supplies delivered to the Soviet Union by the US and UK included only three million tons of oil products (F B Czarnomski, "Can Russia Survive", New York, 1953, p 116). On the other hand, the decline in the production in the timber industry, which is concentrated in the Asiatic portion of the USSR, can be explained by the fact that the industry was probably regarded as non-essential to the war effort and was consequently neglected.
5. The full significance of the drastic decline of grain production between 1940 and 1946 (reaching almost 50%) can be appreciated only if the fact that grain, which constitutes more than 75% of the national diet of the USSR,

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is considered. (The term grain as used by the Soviets, includes wheat, rye, barley, maize, oats, buckwheat, millet, rice and legumes, the first five of this group accounting for 80% of total grain production.) A typical sample diet of the average Soviet citizen consists of the following:

<u>Item</u>	<u>Amount per week</u>	<u>Amount per day</u>
Cereals	2,800 grams	400 grams
Bread and flour products	7,000 "	1,000 "
Potatoes	2,800 "	400 "
Other vegetables	1,000-1,500 "	143-215 "
Butter	50 "	7.1 "
Margarine or vegetable oil	150 "	21.5 "
Sugar	160 "	22.8 "
Jam	100 "	14.3 "
Meat	200 "	28.6 "
Fish	500 "	71.4 "
Milk	1 liter	.143 liter

Table II [see tables at end of report] reflects that in 1950 the total grain output on a per capita basis was only slightly higher than in 1940. This apparent alarming food situation in the USSR may be attributed to the following factors:

- a. The Soviet government was continuing its pre-World War II policy of laying main stress on the development of heavy industry in the post war economy. ("Pravda," August 9, 1953, reported that Premier Malenkov stated that during the entire period of planning, 1928 to 1953, 63.9% of total investment went for heavy industry).
- b. That the labor productivity in Soviet agriculture has continued to be very low. (J Fisher, in his book, "The Scared Men in the Kremlin", 1949, wrote "... The typical collective farm in the Ukraine includes about 1,800 acres. It is worked by an average of 250 able-bodied adults - that is, one farm hand for every seven acres (on the same kind of wheatland in Texas and Oklahoma, it is not unusual for one man to handle 75 to 100 acres or more").
- c. In the course of the war, the USSR suffered very heavy losses in manpower. (N S Timasheff, in his book, "The Population of the Soviet Union", estimated 37.5 million).
- d. After the war many demobilized, former collective farmers preferred to seek employment in industry rather than return to the drudgery of Soviet agriculture. (N S Khrushchev referred to this in his speech to the Central Party Committee in September 1953 -- "Pravda," September 15, 1953).

Table II likewise reflects a decline of more than 50% in the production of cotton and wool textiles between 1940 and 1945. There were only 5.8 meters of cotton and 0.3 meters of wool textiles per inhabitant produced in the USSR in 1945.

6. As can be seen from Tables III and IV [see tables at end of report], as the result of the war the gross output of the most important items of Soviet economy was reduced by almost one half between 1940 and 1945. No figures for the years 1941, 1942, 1943 and 1944 were made available, but it is reasonable to assume that during these years the Soviet economy had reached an even lower level. Only in the light of these observations is it possible to appreciate the great relative weight of the foreign aid granted to the USSR during World War II. The supplies produced and delivered to the USSR by the two

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western powers included: 21,866 aircraft; 12,218 tanks; 461,780 motor vehicles, including armored vehicles, ordnance service vehicles, jeeps and trucks; 1,981 locomotives; 11,155 freight cars; 90 cargo vessels; five million tons of foodstuffs; 52,393,000 yards of woolen cloth; 106,893,000 yards of cotton cloth; 15,417,000 pairs of army boots and 49 thousand tons of leather; 2,688,000 tons of steel; three million tons of petroleum products; 3,786,000 spare parts; 5,035 antitank guns; 8,200 antiaircraft guns; 135 thousand submachine guns; 343 thousand tons of explosives; 47,700,000 square feet of aircraft landing material.

7. Tables I, II and IV reflect that by 1950 the gross output of the main industrial and agricultural items had reached, and in certain cases had surpassed, the pre-war level of 1940. According to official Soviet statistics as set forth in "Izvestiya" (January 31, 1954) the gross industrial output in 1950 was 73% above 1940. There is no way of checking this statement even by relating it to the data obtained from annual percentage plan fulfillments, because even in the annual report for 1945, several items listed in the original 1940 report, were omitted or combined with others. Consequently, the number of items in Tables I and II is limited to 15 and 14 respectively. Also, once the percentage of sugar beet production was broken off in 1950 no further computations of output are possible.
8. In 1951, the Soviet authorities, through a speech by Beria on the occasion of the anniversary of the revolution, ("Izvestiya," 9 Nov 51) released the following absolute figures for the 1950 industrial production:

pig iron	19.3 million metric tons
steel	27.3 " " "
oil	37.5 " " "
coal	264.0 " " "
electric power	90.3 billion kw/hrs/

These figures, in general, agree with those based on the percentage computations (Table I) with one important exception: The production of coal. This major discrepancy (200 million metric tons as shown in Table I as compared with 264 million metric tons as released by Beria) may be due to the fact that the Soviet authorities sometimes combine all kinds of coal, ranging from brown coal (lignite) to anthracite and report them as one item, while at other times they report only anthracite and bituminous coal output. Then, too, the annual report of the Central Statistical Administration for 1951 omitted the output of autos and tractors. It is possible that they were included in what was reported as "agricultural machines". The annual report for 1953 did not include the timber industry and gave no figures on grain output. Thus, the reported changes for only nine out of the original 15 items could be traced from 1940 through 1953.

9. Despite all assurances of the Malenkov Government that the production of light (consumer) goods and food industries was to be greatly increased in 1953, the ratio between these two industries on the one hand, and heavy industry (capital goods) on the other, remained the same. According to the official report on the fulfillment of annual quotas for 1953 that appeared in "Izvestiya" (31 Jan 54) the production of leather footwear increased by only four percent, production of cotton textiles by five percent, production of butter by three percent, production of fish products by three percent and the production of milk products by nine percent over the 1952 figures. At the same time an increase of 10% was reported in the production of steel, 22% in lead, 12% in oil, 163% in locomotives and electric power, 23%. In their election campaign speeches, the Soviet leaders made the following statements:

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"In 1953 the USSR produced almost 15 million tons of steel more than four years ago, or more than twice as much as in 1940. Production of rolled metal increased by more than 11 million tons, or 2.2 times that of 1940.

"During these four years total output increased by 36 percent and reached 320 million tons in 1953, or almost twice as much as in 1940. Last year our country obtained more than 52 million tons of oil, or in other words, 70 percent more than in 1940. During the last four years oil output increased by 58 percent. During the last year Soviet Industry manufactured 22 times as many machines as four years ago ... In 1953 the USSR produced more than 133 billion kw/hr of electric power, or 71 percent more than four years ago" N S Krushchev in "Izvestiya," 7 Mar 54

"Volume of industrial output was in 1953 2.5 times larger than the prewar level of 1940". N M Shvernik in "Izvestiya" 7 Mar 53

"In 1953 gross output of the entire industry was increased by 45 percent over 1950. Let me remind you that at present our major industries manufacture every nine days as many products as was the entire annual production of the pre-revolutionary Russia". N N Shatilov in "Izvestiya," 9 Mar 54

Thus it appears that the traditional Soviet policy of discrimination against consumer's goods production in order to build up the industrial and military potential of the USSR continues, even after Stalin's death.

10. The figures regarding Soviet agriculture reflect that the picture continues to go from bad to worse. According to official Soviet figures that appeared in "Izvestiya" (31 Jan 54), sowing areas were enlarged in 1953 by 1.4 million hectares as compared with 1952. According to the same source, "the actual output of grain in 1953 was close to that of 1952", and it appears that the yield per hectare diminished.
11. The following will illustrate the dubious reliability and questionable value of Soviet economic statistics. In a dramatic speech of September 1953 as reported in "Izvestiya" (15 Sep 53) Nikita Khrushchev, First Secretary of the Communist Party, gave several absolute figures on Soviet animal husbandry while in January of 1954, "Izvestiya" published strikingly different data from those furnished on the same matter by the Central Statistical Administration. These were:

Item	Khrushchev's data for June 1953	CSA's data for 1 Oct 53
Horned cattle	56.6 million heads	63.0 million heads
Pigs	28.5 million heads	47.6 million heads

It is very difficult to believe that the number of cattle and pigs could have increased from June to October of the same year by 11.3% and 67% respectively. Another gross exaggeration of Soviet economic progress is to be found in Soviet reports on grain production. Soviet statisticians base their figures not on actual production but on biological yield. This method of figuring gives at least 20% more than the actual physical yield. Thus the actual grain yields in 1952 and 1953 were not 133.9 million metric tons but only about 107.1 million metric tons; not 625 kg per capita, but only 500 kg per capita in 1953 as compared with 572 kg per capita in 1913 (E Yurevsky, "The Social Courier," Paris, February 1954). This subject has also been thoroughly analyzed by the Soviet economists in exile in Germany, S N Prokopovich and N M Yanny. Recently the Soviet authorities made indirect admissions that official figures based on

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biological yield are highly inflated. There appeared in "Pravda" (9 Aug 53) the following observation by Malenkov: "It is necessary to end the wrong practice which leads to estimates of grain and other products on collective farms based on apparent yield only and not on actual harvest. Actual harvest stored in the warehouses and not biological yield can make our country, our collective farms, rich".

12. A critical analysis of the first post-World War II Five Year Plan as set forth in "Law on the Five Year Plan for Rehabilitation and Development of the National Economy of the USSR, 1946-1950" as published in Moscow in March 1946, reveals the following discrepancies in the goals planned:
 - a. On pages 46 and 47 of this official document, issued by Gosplan, one reads that "average daily freight-car loadings in 1950 are set at 115 thousand (in terms of two axle, 10-ton cars) and total freight carried during the year at 532,000 million ton/kilometers". It also states that "The turnover (loading to loading time) of railroad cars shall be reduced from an average of 10.9 days in 1945 to an average of seven days in 1950, and the average length of railway haul reduced from 750 kilometers as of 1945 to 690 kilometers for 1950. The standing time of cars on factory spur lines shall be reduced to the utmost". Assuming that all goals set forth in this plan were successfully met in 1950 we find that 115 thousand freight-car loadings should have amounted to 1,150,000 tons or 112,700,000 ton/km per year (365 days) and not 532,000 million ton/km as set forth in the plan.
 - b. The same plan provides on pages 47 through 48 that "7230 km of new railroads shall be supplied with 4,500,000 tons of rails". Even assuming that all of these railroads were single track the total weight of rails needed should have been six million tons, figuring the weight of the Soviet steel rail as 50 kg per meter.
 - c. Another contradiction can be found between a very limited carrying capacity of the Soviet railroads (as shown above) and the weight of total annual production.
13. The list of such striking contradictions is long, when closer analysis is made, and it would appear that this type of "planning" is designed mainly for propaganda purposes and that it cannot be accepted at its face value. One must also remember that all of the data set forth are supposed to show Soviet production in terms of quantity only. This fact alone makes it quite impossible to estimate the real value of this production since several items in question may be of quite different qualities.
14. In order to complete this study, a comparison between US and Soviet production should be made. The following table contains comparative figures for both countries for 1953:

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<u>Item</u>	<u>Unit</u>	<u>US</u>	<u>USSR</u>	<u>USSR Output as per-</u> <u>cent of that of US</u>
Oil	mil. met. tons	325.4	53.3	16.3
Steel	" " "	101.0	34.4	34.0
Anthracite and	" " "			
Bituminous	" " "	530.7	264.5	49.9
Pig iron	" " "	68.8	28.0	40.7
Electric power	bil. kwt/hrs	513.5	137.8	26.8
Cotton textile	mil. meters	9,162.0	4,897.0	53.4
Wool textile	" " "	301.8	220.9	73.8

As one can see, the above comparisons show that despite all efforts and sacrifices, the USSR still lags far behind the US in production of the major industrial items. Figures on the US production were derived from "Survey of Current Business". They were compiled and converted into metric units. See: "Survey of Current Business," February and March 1954.

[See following pages for Tables]

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TABLE I

Production data of the Soviet Union during the postwar period
(absolute figures)

Item	Unit	1940	1945	1946	1947	1948	1949	1950	1951	1952	1953	1953 over-40
Population*	mil.	198	190	191.5	194	196.5	199	202	204.5	207	210	in %
Coal	met. tons	166	113	124	139	159	180	200	218.0	239.7	264.5	47.2
Oil	" "	31.0	19.4	21.7	25.9	29.2	33.2	37.6	42.4	47.6	53.3	72.0
Pig iron	" "	15.0	7.2	10.2	11.7	14.3	17.0	19.9	22.6	25.7	28.0	86.5
Steel	" "	18.3	11.2	12.2	13.3	17.0	21.2	24.8	28.5	31.3	34.4	88.0
Cement	" "	5.8	1.9	3.5	4.9	6.7	8.8	11.0	13.0	15.0	17.2	196.5
Timber	" "	150	84.8	89.2	118	153	176	184.8	214.6	203.9	--	--
Grain	" "	119	66	61	97	115	127	127	125.9	133.9	--	--
Sunflower oil	" "	3.3	1.8	2.2	2.5	3.1	4.0	4.6	5.0	5.5	6.4	94.0
Sugar beets	" "	20.9	8.9	9.6	9.9	14.1	19.8	--	--	--	--	--
Electric power	bil. kwt/hrs	48.3	43.2	47.5	54.6	63.4	75.1	87.1	99.2	112.0	137.8	185
Autcs	thousand	147.0	83.9	116.0	150.0	214.6	327.4	418.1	--	--	--	--
Tractors	"	31.1	7.3	12.6	26.3	53.7	83.1	102.0	--	--	--	--
Cotton textile	mil. meters	4005	1674	1959	2605	3230	3330	3600	4400	4664	4897	22.5
Wool textile	" "	119.8	57.0	74.0	99.0	126.4	151.6	166.1	187.6	202.7	220.9	92.5
Cattle	mil. heads	54.5	47.3	46.9	--	--	--	--	--	--	--	--

* The figures on population were taken from the following sources:
 "The Great Soviet Encyclopedia", vol. XX, Moscow, 1949; F Lorimer, "The Population of Soviet Russia," Geneva, 1946;
 I Kulisher, "The Displacement of Population in Europe," Montreal, 1943; "Information Please Almanac," 1954;
 "The Philadelphia Inquirer," 1954.

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TABLE II

Production output index of the Soviet Union
calculated on per capita basis (1940 = 100%)

	Coal	Oil	Pig iron	Steel	Cement	Timber	Grain	Sunflower Oil	Electric Power	Autos	Tractors	Cotton Textile	Wool Textile
1946	77.4	68.7	67.6	64.5	66.7	59.2	53.4	68.9	101.6	80.8	42.0	50.5	63.4
1950	118.0	119.0	135.0	129.0	167.0	121.0	105.0	137.0	177.0	266.0	322.0	82.2	135.6
1953	130.9	125.0	175.6	133.3	279.7	--	--	182.3	264.8	--	--	115.2	174.9

TABLE III

Decrease in production during
the war time

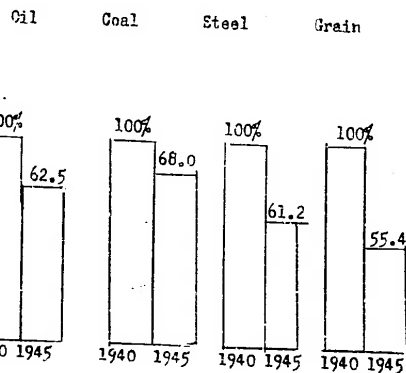
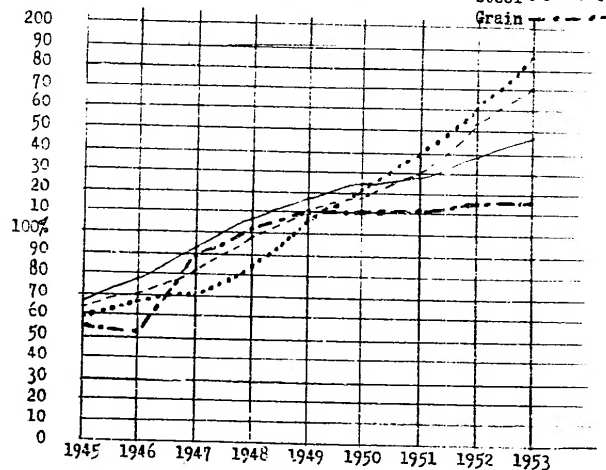


TABLE IV

Growth of production during the
postwar period (1940 = 100%)



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TABLE V

Industrial Development in the USSR and in
 the Capitalist Countries
 (From Malenkov's speech to the XIX Congress
 of the Communist Party, Pravda, 11 Oct 52)

In percentages of 1929									
<u>Countries</u>	<u>1929</u>	<u>1939</u>	<u>1943</u>	<u>1946</u>	<u>1947</u>	<u>1948</u>	<u>1949</u>	<u>1950</u>	<u>1951</u>
USSR	100	532	573	466	571	721	870	1082	1266
US	100	99	217	155	170	175	160	182	200
UK	100	123	--	112	121	135	144	157	160
France	100	80	--	63	74	85	92	92	104
Italy	100	108	--	72	93	97	103	118	134

Growth of Industrial Production in USSR
 (from the same source)

In percentages of 1940									
	<u>1940</u>	<u>1944</u>	<u>1945</u>	<u>1946</u>	<u>1947</u>	<u>1948</u>	<u>1949</u>	<u>1950</u>	<u>1951</u>
Industry as a whole	100	104	92	77	93	118	141	173	202
Of which: group "A" (capital goods)	100	136	112	82	101	130	163	205	233
Of which: group "B" (Consumer goods)	100	54	59	67	82	99	107	123	143

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